

## POWER CONTROL AND SCHEDULING IN AN OFDM SYSTEM

### Abstract of the Disclosure

A system and method for power control and scheduling of sub-carriers in an OFDM communication system. The receiver dynamic range can be minimized by a power control loop that attempts to maintain received power over a noise floor in a predetermined range. If the received power relative to a noise floor in allocated sub-carriers exceeds the predetermined range and the total received power is at the minimum, the scheduling system allocates an additional sub-carrier to the communication link. Additionally, if the received power relative to the noise floor is less than the predetermined range minimum, and the total received power is at a maximum, the scheduling system de-allocates a sub-carrier from the communication link. The scheduling system may also adjust an encoding rate to maintain a relatively constant symbol rate in each sub-carrier.